

# Alice Springs Water Resource Strategy 2005

## Community Forum: Water Use and Sustainability

Saturday 29<sup>th</sup> October, 2005  
Alice Springs Water Resource Strategy

### Workshop Overview

#### NT Government Staff

John Childs – Regional Manager Policy and Planning  
Jonathan Vea – Natural Resource Planner  
Robbie Henderson – Community Educations and Engagement  
Luke Diddams – Rural Advisory Officer

### Introduction

Robbie Henderson (Community Education and Engagement, NT Government) introduced the forum, including aims, staff introductions, house-keeping issues and forum program.

### Presentation – Revision of last week's presentation by Robbie Henderson

Robbie Henderson presented an abridged version of information about Alice Springs water resources including:

- Dispelling common myths
- Describing where our water comes from
- Detailing how much water we have and how fast we are using it
- Exploring scenarios for when we could 'runout' of water, depending on how it is used

### Discussion & Questions during presentation:

A number of questions were raised regarding the technical aspects of Alice Springs aquifers and water resources, these included:

1. Seeking clarification of the water bodies that are included in estimations of available water
2. Is the plan talking about water from Roe Creek and Rocky Hill or from a broader area?
3. Does water moving from the west (into Amadeus Aquifers) come from a large storage out there?
4. Is the western flow from ancient times?
5. Where does evapotranspiration occur in the Mereenie Aquifer? How confident is NRETA about the figure of 4000 ML for evapotranspiration?
6. In regards to the water levels of the bores at Roe Creek, there is certainly a downward trend but they also go up, why is this so?
7. If water is extracted from a good quality region of the aquifer (shown in blue), will it draw in salty water (shown in red) from else where in the aquifer?

The answers (summarised) were as follows:

1. Available water in the Amadeus aquifers is defined as water to the maximum depth of 300m which we are assuming as the current limit for economic pumping.
2. We are looking at all the connected aquifers shown on the map.
3. & 4. Water does move through from Mereenie Aquifer storages to the west, some of it is from ancient recharge events, however recharge is still occurring in various locations
5. This is an area that requires more research to be done. Out to the east there is saline water (shown in red) – the aquifer is shallower there which would indicate evaporation, including use by plants.
6. There is a fair amount of 'noise' on the graph showing draw down in the Roe Creek borefield. This is caused by bores running for different periods of time...and effecting water levels in their vicinity. Recharge has very little bearing on the graph, such as in 1974 when despite the large rainfall year this does not register a rise in water levels ion the bore.
7. Extracting good quality water does draw other water closer, but from the fair quality water (shown in green) rather than the salty water (shown in red).

**Comment:** I suppose it is not necessarily that Alice Springs will have 260,000 people but if we were to have a large mine or agricultural enterprise...We need to ask the question of when the Rocky Hill borefield will be required. We need to talk about the sustainability of specific bores and changing to other sources and the costs associated.

**Reply to comment (Robbie Henderson):** The Water Efficiency Study is looking at water conservation, while specific bore performance and comparative costings are done on a commercial basis by the water supply utility. These are really out of the scope of this study.

## **Presentation – Revision of last week’s presentation by Jonathan Vea**

Jonathan Vea (Natural Resource Planning, NT Government) presented an abridged version of information about the Draft Alice Springs Water Resources Strategy including:

- Research (Background information for the plan)
- Planning (Development of the Strategy)
- Implementation of the plan (The current process and future plan)

### **Discussion & Questions during presentation:**

A number of questions were raised regarding the detail of the Alice Springs Water Resource Strategy aquifers and water resources, these included:

1. Why is industry not included in the Beneficial Uses for the Amadeus aquifers?
2. Given that we know that we are ‘mining’ the water – how can we use the term sustainable? Why kid ourselves? For our town – when we use the term sustainable, it is not correct – not for those of us who want to continue living here.
3. What happens if we extract 80% over 100 years and we are wrong and we have actually taken 100% - this idea is just not sustainable.
4. Is this process the first of its kind?
5. For the 100 year consumptive pool, didn’t you say that you subtract the non-consumptive uses – so in effect that number (total water available in 100 years) would be lower?
6. It seems that the strategy has allocated more water to agriculture than at the present time?
7. Even if we don’t use this much water at the moment – doesn’t 80% equate to open slather? Why are we only looking at one human lifetime into the future? If I was born today then...this just simply is not good enough!

The answers (in summary) were as follows:

1. This (non inclusion of industrial use) is something that we would like your (community) input on; the strategy proposes that water for industry will not come from these Amadeus rock aquifers.
2. It really depends on your definition of sustainable. The adopted definition of sustainable in the plan is, “The groundwater extraction regime, measured over a specific timeframe, that allows acceptable levels of stress and protects dependent economic, social and environmental values” (from the definition from the National Groundwater Committee.) We are trying to balance social, environmental and economic sustainability.
3. This plan is an adaptive process. It will be reviewed every 5 years – so that is 20 times over a 100 year period. We are putting processed in place to make sure that we don't get it wrong like that.
4. Ti Tree has a similar strategy, but for Alice Springs this Water resource Strategy is the first of its kind.
5. This water balance recognises an equilibrium between water naturally entering the aquifer (through ground-waters to the west and river recharge) and water naturally leaving the aquifer (through ground-waters leaving the region to the east and water used through evapotranspiration). All estimated evapotranspiration is considered an environmental flow – or a non-consumptive use.
6. The strategy includes water that is already allocated to agriculture in the Rocky Hill area. It also proposes water entitlements for proposed agricultural developments for areas to the east and south of existing agricultural block.
7. The 80% is an upper limit beyond which we will not go. What is appropriate for each place will vary. There may be no choice for a small remote community with a very limited groundwater source as they may need to use this much just to live on. The question that we are asking is what is appropriate, inside that upper limit, for Alice Springs?

### Activity: “Where do you stand?” Part 1.

**This activity explores the issue of the proposed ‘Sustainable Yield’ policy (80/20 rule) through constructive dialogue.**

A line was established at the front of the conference room with the words ‘strongly agree’ and ‘strongly disagree’ at opposing ends. Participants are asked to physically place themselves at a point on the line and explain to the other participants the reason for their placement. This is an adaptive activity where the comments of participants may sway a change in the stance of the others.

Approximately 12 participants stood on the ‘strongly disagree’ part of the line, 2 stood around the ‘middle ground’ and 1 on the agree side, no-one stood at ‘strongly agree.’

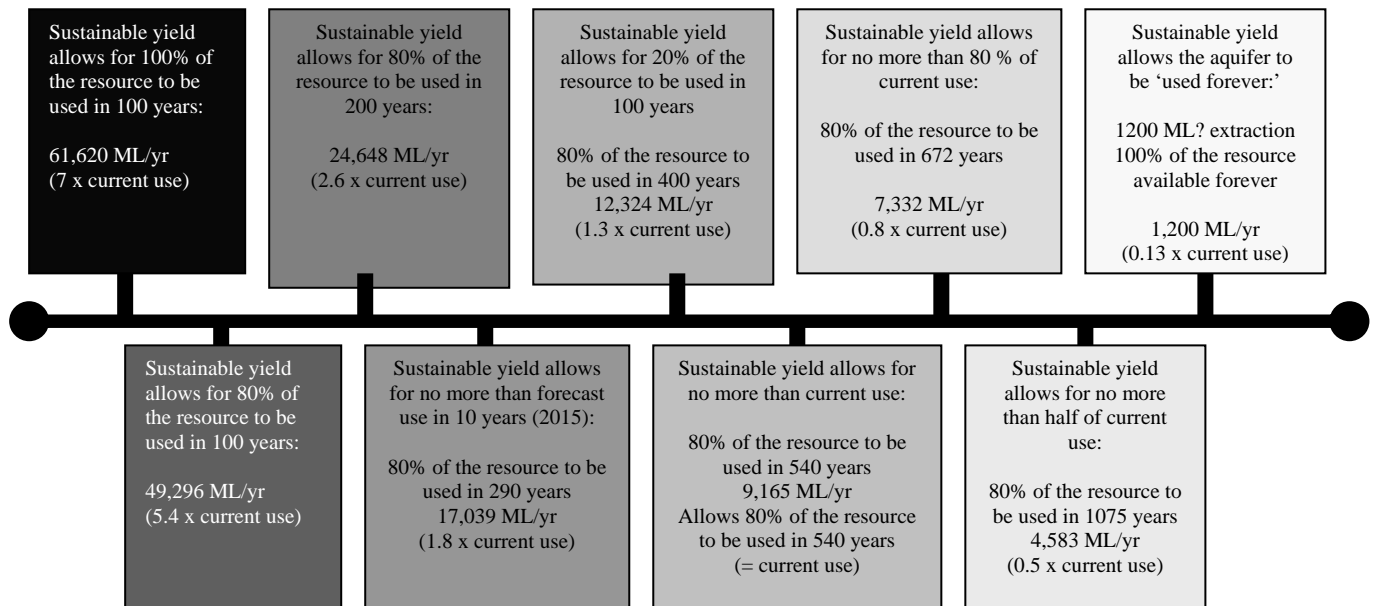
Participants discussed issues including:

- Is it necessary to make such a clear decision now (to be so mathematical about it);
- What is truly sustainable? and whether this is achievable;
- Economics and issues of having more water available if we can pay for it; The advent of new technologies and whether it was necessary to be too conservative –Bob Read: “At the start of my working lifetime the Roe Creek bore field was only going to last 10 years, because equipment could not pump economically from greater depths. Now we are talking about depths of 300m as being economic. This has made a big difference over the last 40 years, I expect more changes in the future.”
- If John Childs (Regional Manager Policy and Planning, NT Government) is standing there in the middle – does that mean that his opinion can carry more weight than ours? Response (John Childs): “I’m standing here as a ‘devil’s advocate’. We look at 100 years as being a number of generations. Our Strategy looks forward 10 years. In 20 years our technology will already be different. I don’t think that we should severely limit ourselves now when we don’t know about options for desalination etc in the future.”
- Possible impacts of natural disasters such as an earth quake (this was thought to have no bearing on water availability in aquifers);



## Activity: "Where do you stand?" Part 2.

A range of options for the forecast of the sustainability of Alice Springs' water (including the proposed 80/20 rule) are laid out along the line. The participants are asked to place themselves at the option that they feel most comfortable and once again explain their reasons.



Participants discussed issues and explained their choices (some example statements):

- The use of the word 'sustainable' in the definition of sustainable yield; it was agreed to use the word 'allowable' and hence allowable yield in recognition that gradual depletion of a resource does not fit with many people's definition of the word sustainable.
- (Standing at "current usage") I've got faith in behaviour change and technology. I also understand that this Strategy will be reviewed every 5 – 10 years.
- (Standing at 20/80 rule) The town really is floating...we need to encourage indigenous business, by taking 20% over 100 years we would still be able to grow. I would support an approach where we start from a conservative position, if someone has a proposal to use more water then we could look at it as a community and decide if it has enough benefit to justify the increased use of water.
- I remain convinced that we could double the population without increasing our water demand. We need to be increasing efficiency. This won't happen overnight but will take a decade or two.
- I want to stand in the middle: I don't want to stand at the high-use end because of consideration for future generations however I don't want to stand at the low-use end because that would preclude further development opportunities.
- We really need to look at economics – water will not run out – people will pay \$1 for a bottle of water in town versus Power and Water's \$1 per kilolitre of water.
- We just can't factor in climate change as it is too unpredictable. If new climate predictions come along which would make a difference, then we will incorporate them into future revisions of the strategy – Bob Read: "Well which way is it going? There are two predictions: one says that the climate will become hotter and drier and the other says hotter and wetter."



**Activity: “Where do you stand?” Part 3.**

Participants recorded their preferred policy statements for ‘sustainable or allowable yield’

Options for a policy on ‘sustainable yield’ or ‘allowable yield’									
	<p>Sustainable yield allows for 100% of the resource to be used in 100 years:</p> <p>61,620 ML per year</p> <p>(Current use x 7)</p>	<p>*Sustainable yield allows for 80% of the resource to be used in 100 years:</p> <p>49,296 ML per year</p> <p>(Current use x 5.4)</p>	<p>Sustainable yield allows for 80% of the resource to be used in 200 years</p> <p>24,648 ML per year</p> <p>(Current use x 2.6)</p>	<p>Sustainable yield allows for no more than forecast use in 10 years</p> <p>Or 80% of the resource to be used in 290 years</p> <p>17,039 ML per year</p> <p>(Current use x 1.8)</p>	<p>Sustainable yield allows for 20% of the resource to be used in 100 years</p> <p>Or 80% of the resource to be used in 400 years</p> <p>12,324 ML per year</p> <p>(Current use x 1.3)</p>	<p>#Sustainable yield allows for no more than current use</p> <p>Or 80% of the resource to be used in 540 years</p> <p>9,165 ML per year</p> <p>(Current Use)</p>	<p>Sustainable yield allows for no more than 80% of current use</p> <p>Or 80% of the resource to be used in 672 years</p> <p>7,332 ML per year</p> <p>(Current Use x 0.8)</p>	<p>Sustainable yield allows for no more than 50% of current use</p> <p>Or 80% of the resource to be used in 1,075 years</p> <p>4,583 ML per year</p> <p>(Current Use x 0.5)</p>	<p>Sustainable yield allows the aquifer to be used forever</p> <p>Or 100% of the resource to be available forever</p> <p>1,200? ML per year</p> <p>(Current Use x 0.13)</p>
Participant preferences	0	0	3	0	3	3	4	0	0

n = 13 \* Current policy in draft ASWR Strategy

### Activity: "What's the use?"

Robbie Henderson introduced the third part of the session focussing on community feedback regarding 'Beneficial Uses'. The participants are asked to consider different 'beneficial uses' for water in the Amadeus aquifers and to rank them in importance from 'Highly Important' to 'Shouldn't be considered'

Participants discussed various issues regarding Beneficial Uses and the ability for community members to record their preference. Issues that were raised included:

- Are these 'beneficial uses' a national concept? (The beneficial uses we present here are a reflection of The National Water Quality Management Strategy).
- Why is aquaculture not in industry? (The Beneficial Use categories are defined by the NT Water Act, it is not possible to change them through this process; we acknowledge that there are many ways of classifying things, and this is how the Water Act classifies them)
- Why do we not have a classification system as 'beneficial uses' and 'non-beneficial uses'?
- We need to break down these 'beneficial uses' more so that we can understand what is beneficial for us.
- If there are no 'non-beneficial uses' – we can't have a policy as to what is good or bad. We don't have enough information to do this.
- These categories are too broad and by ranking them like this, it will not show my opinion at all.
- The categories don't allow someone to support, for example, one type of agriculture, but not another.

Participants ranked the 'beneficial uses' using red stickers on the white board. Forum closes with general comments being discussed in small groups. Results were as follows:

